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BULLETIN
OF THE
AMERICAN GEOGRAPHICAL SOCIETY.

Vol. XXXVII

1905.

No. 6

THE GREAT ROADS ACROSS THE APPALACHIANS.*

BY

ALBERT PERRY BRIGHAM.

Few conditions in commercial geography are so unquestioned as the close relation of Western New York to the city at the mouth of the Hudson. We teach it to children in the grades as part of the alphabet of human geography, and scarcely think of the Genesee country as having an outlet to the sea save by the Mohawk valley. Yet the long fingers which the Lehigh and Pennsylvania railway systems have extended into central and western New York recall views of a very different sort that were held but little more than a hundred years ago.

A traveller who saw the lake country of New York in 1792 only followed the fashion of those days in his enthusiasm over the water connections of that region. There were routes by the Genesee and Seneca Rivers to Lake Ontario and Quebec. And one could go by the Tioga (now the Chemung) and Susquehanna to Philadelphia, Maryland, and Virginia, a canal already being projected between the Susquehanna and the Schuylkill. The old writers did not indeed forget the route by Wood Creek and the Mohawk to Albany, but they thought that after home needs were met the surplus would find its best market in Philadelphia. As late as 1804 Robert Munro, in his description of the Genesee country, voices this thought of a Philadelphia market.

These views were no new thing—in fact, they might be called ancient even in 1804; for in 1687 Gov. Dongan, in his report on the Province of New York, had been anxious about the beaver and

* This paper was read before the Association of American Geographers, in Philadelphia, December 29, 1904.

peltry trade, and informs their lordships that in the previous year the Indians brought 200 packs of beaver "down to the Skonhill," and were likely to bring more in the year of his writing, "which, if not prevented, his Majesty must not expect this government can maintain itself, besides that it will wholly depopulate both this town and Albany." Thus anxiety to save the supremacy of New York is by no means confined to the beginning of the twentieth century.

The southern route for the Genesee country was no mere theory in those days. The opening of what was then thought a tolerable road across the mountains of Pennsylvania, by the Susquehanna gateway, had lured explorers and aided in the settlement of the lands. It was thought a marvel that a number of persons who had passed the age of sixty had easily made the journey in seven days from Baltimore to Bath, in Steuben County. And much freight was carried. Rude but strong craft, known as "arks," were gotten in readiness for the melting of the mountain snows, loaded with two to five hundred barrels of flour, and piloted by a small crew down the swollen streams to Baltimore, where the cargoes were sold, and likewise the boats, designed for one voyage only, were broken up for the lumber that was in them.

Nor was the outlet of the St. Lawrence forgotten. While Baltimore was the "natural seaport" of the Steuben country, beef, salt, pork, flour, and whiskey were shipped to Canada; and Cadwallader Colden, in his memoir on the completion of the Erie Canal, refers to a time when it was common talk that the State might be divided along the line of its mountains, Western New York being tributary to Montreal.

When one stands on the public square of the quiet little city of Hagerstown, in Maryland, and looks down each of the four comfortable avenues that lead out from it, it would scarcely occur to him that he would be going out into the wilderness should he visit Rochester, on the lower Genesee. But so they thought of Colonel Rochester in 1802 when, at sixty years of age, he organized a family caravan, and passed out of Hagerstown between long lines of sorrowing neighbours to make his home in the wilds of Western New York. He and others had squandered \$1,750 upon a hundred acres of land at the falls of the Genesee. A good part of the tract was swamp, and Rochester was asked if they were starting a park for deer, bears, and raccoons, or if, perhaps, they were going to make "rattlesnake gall pills." But he and his partners seemed to have prophetic faith, and proceeded to lay out the great "four corners"

of the present noble city. Thus Rochester had its lineage from the south.

But meantime the eastern outlet was not forgotten, and navigation from the lakes to the Mohawk was improved until ten-ton boats could go to Schenectady. In 1788, Elkanah Watson dared think that New York could dig canals and thus divert the trade of the lakes, not only from Quebec, but also from Alexandria. The idea of staid old Alexandria, which most of us know as the incident of a trip to Mt. Vernon, competing for the trade of the Great Lakes is quite impossible to modern consciousness. But it was not so to Watson, nor was it so to Washington, whose most persistent thought, after the freedom of his country, was certainly the focusing of the West upon the Potomac River and on the soil of his beloved Virginia. But Watson has no idea of allowing New York to sit by while Washington attracts the peltry of Detroit to the marts of Alexandria.

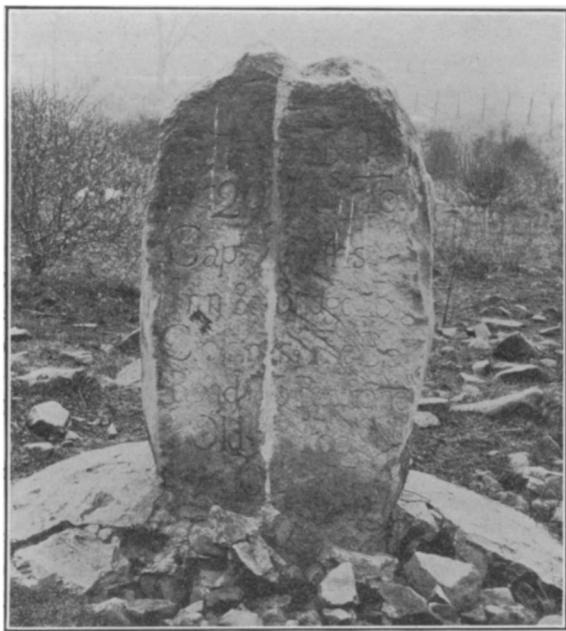
Another student of these early industrial conditions, writing in 1808, conceded no future rival to New York save New Orleans, and believed that within a hundred years its island would be covered with buildings. His vision was thus equal to Manhattan, but fell short of Greater New York. Buffalo, also, he pictured as exchanging its forest for a thicket of marine spars. With reference to Albany, however, his fancy carried him somewhat afield, for he thought her hills must be cut down and her valleys filled, to "give spread" to her population.

During the last decades of the eighteenth century the pioneers traced with delight the network of inland streams and lakes. They put the emphasis on the extent of this "navigation," to use their favourite word; we should put it upon the number and length of the carrying-places, upon the shoal waters and endless windings of the Mohawk and Seneca, upon snags and fallen trees, upon fleas, mosquitoes, execrable taverns, and high freight charges. But for the development of a new empire, as the enthusiasts of that day were wont to call the land, the necessities of life were fewer than now.

Doubtless the sturdy immigrant coming up the Hudson would conquer with equanimity the sixteen miles of sand hills and pine barrens which still interpose a half desert between Albany and Schenectady. Then by diligent use of poles he would come up to Little Falls, and would esteem the transfer short over the rocky banks to the placid waters that mark the local base-level thence to Fort Stanwix. There he would consider it nothing less than the work of a wise Providence that a short portage across level ground

would bring him and his goods to Wood Creek and the basin of Lake Ontario.

Parkman has somewhere given a poetic description of the canoe voyager borne peacefully down the winding waters of this little stream, beneath the shading arch of interlocking forest trees. The real journey seems to have been more prosaic, not to say exasperating. Mr. Watson, who went West by this route in 1788, says that in September, when the water was low, the bateaux were commonly hauled up the creek by horses, which travelled in the water, and not infrequently the descending boats were navigated in the same



MILESTONE ON THE LINE OF BRADDOCK'S ROAD NEAR FROSTSBURG, MARYLAND.

way. The crooks and turns were "innumerable," and the trees had in them more than poetry, for a big and lazy glutton was knocked off from one of the boats by a limb and got a dangerous ducking.

After Oneida Lake and its outlet were passed the voyager could go down to Oswego, or thread his way through the mazes of Seneca River and its tributaries to Geneva, or Canandaigua, which had become places of importance long before the days of Syracuse, Rochester, and Buffalo. It was regarded as a vast gain when, in the years 1795-1797, the short canals gave the first concrete prophecy

of what was coming thirty years later. At Little Falls the rocks yielded to the sturdy hand of the pioneer for a distance of two miles. Five locks were built, and the ascent and descent of forty-two feet were made without breaking bulk. Another canal was dug at Fort Stanwix, across the Oneida Carrying Place, making an unbroken passage between the Hudson and the waters of Ontario. The flour and potash of western New York and the product of the salt springs could now be sent to the Hudson in ten-ton boats and exchanged for the products of the seaboard. A writer, probably of date 1804, records that one hundred boats had been known to draw up at Geneva within a period of six weeks. In 1790, John Post, the first merchant of Utica, had removed from Schenectady to the ford of the Mohawk and begun a successful career as storekeeper, dealer in real estate, and promoter of commerce and travel by the Mohawk River. By boat he exchanged products with Schenectady and the East, erected a three-story warehouse near the Genesee Street crossing, and finally fitted out three stage-boats with seats and oilcloth covers for those who preferred a water journey to rocks and mud between Utica and Schenectady.

Meantime, for years immemorial, there was travel along the Mohawk bottoms. That the river and the flood-plain offered but a choice of evils we can know very well from Watson's vigorous references to his journey in 1788. He had found an "infamous bad carriage road" between Schenectady and Johnstown, and when he resumed the line of the river from the latter place he was in doubt about going on and let his horse decide whether to go up the valley or to return. He suffered from hunger on the site of Utica, forded the river, got green corn and salt from a crusty German woman in a cabin, and was scared by drunken Indians on the battle-field of Oriskany. He pronounces the road system a disgrace to so fine a State, and avers that his driver rattled over the stones as if the devil was at his heels, while he crept over smooth roads as if on his way to a funeral.

It was five years after this journey when the Government established the first mail route between Canajoharie and Utica. The distance was fifty miles; the mail was carried on horseback, and the rider was allowed twenty-eight horses to make the trip in either direction. Some time in the year 1793 or 1794 the great western mail from Albany brought six letters for Old Fort Schuyler (Utica). It was an event, and the gossips of the little town were slow to believe it until the Dutch postmaster, John Post, already in our acquaintance, told them it was true.

A new epoch of land travel began with the building of the Genesee Road through central and western New York. This was variously known as the Great Genesee Road, or the Ontario and Genesee Turnpike Road. It extended from Fort Schuyler to Geneva—a distance of one hundred miles. It was laid out six rods wide, and it was required that a strip four rods in width be cleared and improved. Through swampy tracts, which were abundant in this plain land in the days of forest, gravel and logs were used. It was felt that rapid transit had been won, for “whereas the road was like an Indian path in June (1797), on the last day of September a stage left Fort Schuyler and came to Geneva and left its four passengers in the afternoon of the third day.” Genesee Street in Utica and Genesee Street in Syracuse are parts of this ancient road. Down to this time fording had been the usual means of passing the Mohawk at Fort Schuyler. Now, by a law passed March 28, 1797, a large sum was raised by lottery to benefit roads in various parts of the State. The sum of \$2,200 was assigned for the improvement of the Genesee Road, and of this amount John Post and others received \$400 for building the first bridge at the foot of Genesee Street.

Other thoughts than considerations of utility came to the minds of some, even in those rugged days: Timothy Bigelow, in his tour of Niagara in 1805, arrived at length at that rocky gateway which has ever interested physiographers, geologists, and the common traveller as well—Little Falls. Mr. Bigelow did not give the people of that defile credit for morals or religion, for they swore much, and—perhaps worse than that—they well knew that Adam was not the first man, or else he was more ancient than the Scriptures say, because it must have taken the Mohawk more than five thousand years to break through at that point. Neither the traveller nor the settlers were disturbed by questions of faults, glaciers, or ancient cols, having, doubtless, their appropriate perplexities without assuming others that they knew not of.

The same traveller observes the red earth, the waste of the Salina shales of the geologists, and likens it to the soils of the “red freestone” region of the Connecticut Valley. Geneva, on the shore of Seneca Lake, was the metropolis of this western region, whose soil and climate were beginning to attract the thousands who soon made the Genesee Road a well-beaten way. Others than Bigelow indulged in moral reflections, for it was believed that a Scotchman who had built a “very respectable brewery” at Geneva

was likely thereby "to destroy in the neighbourhood the baneful use of spirituous liquors."

William Darby, in his tour of 1818, describes Geneva as built upon a delightful site, in view of the lake and commanding its opposite slopes with their forests and farms, and looking out on the farm-houses to the north, which stood "in an ocean of plenty."

It is no purpose of this writing to relate the familiar history of the Erie Canal, which was then in construction, and commonly known as the Western Canal. But it is not easy, at nearly a century's remove, to know that the zeal for rival centres of commerce was then as keen as it is to-day. Darby sets himself to answer the queries of the New York Association for the Promotion of Internal Improvements. One of these questions pertained to the advantages of New York over New Orleans in the trade of the country northwest of the Ohio River. With the Canal he was sure the capital of New York could overbalance the superior local conditions of New Orleans and keep her supremacy forever. He then describes, in language as true to-day as it was eighty-seven years ago, the resources of the region bordering the lakes. Darby quotes from the Albany *Argus* the preference of Western merchants for New York, on account of better assortments and prices, but admits that their trade went largely to Philadelphia and Baltimore, because of their better connections with the West. We must remember that the Conestoga freighter, running over the best roads in America, was then in its glory. Four routes between New York and Pittsburgh were advertised, running variously by Albany and Olean, Albany and Black Rock, Albany, Oswego and Black Rock, and Albany, Sackett's Harbor, and Black Rock. These are strange sounds in these days, for the completion of the canal a few years later destroyed the importance of several of the lines.

Clinton's memorial to the Legislature of New York is one of the best tracts ever written upon the advantage of swift and direct transportation, even though we of this day understand with difficulty the *swiftness* of canal traffic. But in appreciation of the special opportunity of the Empire State, in discussion of rival routes, in seizing the experience of the past, and in prophecy of the social and commercial advantages to be won, the memorial reads as if written in the full light of the nineteenth century.

The volume describing the celebration of the finished waterway tells as no other writing tells the motives and the joy of the men of that day. We need to free our minds from the thought of an Empire State Express between New York and Buffalo, with hours

to spare in the sunlight of a summer's day, and pass from the mud and dust and wayside taverns of the Genesee Road to the jaunty packets of the Erie Canal. We must remember the advance in price of Genesee wheat, the easy carriage of merchandise from the seaboard to the lakes, and that these boons followed within a dozen years of the time when it did not cost more than half as much to make a cannon as it did to carry it from Albany to the Lakes.

The first earth was turned for the canal at Rome, July 4, 1817, and eight years and four months later the first boat entered from Lake Erie, bound for the Atlantic Ocean. Signal cannon stationed at proper intervals throughout the five hundred miles offered the nearest approach of that day to telegraphic communication. Jefferson, who had sent Lewis and Clark across the mountains, had



TOLL-HOUSE ON THE NATIONAL ROAD, NEAR BROWNSVILLE, PA.

scouted the building of the Canal as a project that might be considered a hundred years later, and the farmers along the route had laughed at the engineers as they planted their stakes in the fields and swamps. It was said that the ditch could not be made to hold water, and as usual in great deeds the faith of the few atoned for the doubts of the many. Fortune favoured the makers, for water was ample in the adjoining highlands, the grades required no such forbidding array of locks as were needed by the other great canals of the period, and by opportune discovery "meagre lime" was found at hand to serve as hydraulic cement in such locks as were required. At every town there was a festival, speeches were made, feasts were eaten, and we read that at Albany an "eloquent peti-

tion was made to the Throne of Grace by the Reverend Mr. Lacey." The cannon salute was received from the west at Albany at 11 A. M., was heard at Sandy Hook at 11.21, and was repeated back to Albany by 11.50.

Two casks of lake water were brought from Buffalo, and at New York a fleet formed an "Aquatic Procession" and proceeded to Sandy Hook, where, with due ceremony, DeWitt Clinton poured out the water and wedded the lakes and the sea. Possibly more to the point were two barrels of apples, raised in the orchard of Judge Porter at Niagara Falls, placed on one of the craft as samples of western fruit, and presented, one to the corporation of Troy and the other to the corporation of New York.

The influence of the making of the Western Canal was enormous. Darby gives his opinion of it when, far to the west, he observes how much nature has done to communicate across the site of Chicago, between the lakes and the south. He thinks the Government should complete Nature's work; nor should it hesitate at three hundred rods, while New York digs three hundred miles. The ditch could be dug, he thinks, in the time required by a long-winded member of Congress to make a speech against its constitutionality.

The success of the Erie Canal urged on the construction of the Pennsylvania Canal, and was likewise powerful in Massachusetts, where it was little less than galling to see the rich products of the west turned aside at Troy and floated down to the mouth of the Hudson. The path to Europe through Boston was thought to be more direct, and it must be opened. Hence here also canal schemes followed close upon the building of the westward turnpikes, and in 1825 the Governor of Massachusetts, by his message, secured a commission of inquiry. The Deerfield Valley was followed, and it was proposed to dig a tunnel near the place of the present Hoosac Tunnel. It is somewhat diverting to read that they thought the tunnel would cost the sum of \$920,832, and one writer demonstrates that it would take fifty-two years to make the opening through the mountain. But the tidings of engines moving on railways changed the current, and soon the legislature was inquiring in that direction. The Boston and Albany line was the fruit of this fresh discussion, and finally the Deerfield and Hoosac Valleys determined another western road out of New England, both, however, converging on the opening of the Mohawk Valley. Dire consequences were foretold, from the building of such new-fashioned roadways, and Mrs. Alice Morse Earle quotes from the Boston *Courier* of

1827 the opinion that, even should the track be laid, it would be as useless as a railroad from Boston to the moon.

It is not to be understood that the men of the Delaware and Chesapeake basins conceded the superiority of the Mohawk gateway; nor has the New Yorker an undisputed claim to-day, when the Pennsylvania Railroad, already one of the greatest in the world, is expending its millions to make transportation yet more swift, safe, and luxurious. The gardens and rich fields of the Pennsylvania lowlands were well subdued while yet the lake plains of New York were covered with forests. It is no new country that one crosses between Philadelphia and the Susquehanna River, and the strongly-built stone mansions and the great barns with long and low-sloping



HAMBRIGHT'S HOTEL, ON THE PIKE, THREE MILES WEST OF LANCASTER, PA.

roofs on one side and "overshoots" on the other tell the story of generations of industry and of the rewards of fertile soil. Over this land ran the Lancaster Pike, which crossed the Susquehanna River at Columbia, and thence by Carlisle, Shippenburg, and Chambersburg led to Bedford and Pittsburg. West of Bedford it was the Old Glade Road, begun at the instigation of Braddock, and soon after this unfortunate soldier's death completed to Pittsburg by John Forbes, whose name it often bears. In any review of Appalachian highways this must have equal honour with the thoroughfares of the Mohawk and Genesee, for it was the first great road from the Pennsylvania seaboard to the Ohio Valley, and may be regarded as the ancestor of Pennsylvania's greatest railway sys-

tem. It follows, as Hulbert has pointed out, the high ground between the valleys now occupied by two trunk lines of railway. From Philadelphia to beyond Chambersburg it has to this day been an important road, and must ever be, because of the rich country through which it runs. Across the mountains and the western plateau it is like Boone's Wilderness Road—its interest is historic. And this element never fails, for stone bridges, solid old taverns with wide chimneys, and quaintly fashioned toll-houses remain as marks of former greatness. Most of the men of this day seem to have forgotten the past. The writer alighted from the Cumberland Valley train at Chambersburg and inquired of an elderly resident if any old road-houses or toll-gates on the "Pike" were within walking distance in the three hours between trains. His answer was negative, but a walk was taken, nevertheless, to discover within a mile of the public square, going west, an ancient toll-house, a venerable hotel (made commonplace by a degenerate modern bar), and the tall wooden pump with its long and broadly-curved handle of iron.

Where the road crossed the Susquehanna at Columbia is now a bridge, used at once for the passage of pedestrians, wagons, and railway trains. It is but a single narrow road, and the entrance of vehicles, whether moved by beasts or by steam, is controlled by telegraphic communication between the ends of the bridge. This feature can hardly be better than in the old days, though the electric transit into Lancaster is doubtless swifter and more comfortable than the stages of a hundred years ago. And the Conestoga freighter, here in its home, has gone to decay, although the boat-shaped box may still be sometimes seen on the neighbouring farms. The Pike contributes two well-built streets to Lancaster, east and west from the public square, and, going east, the road is carried across the Conestoga Creek, which not far away joins the Susquehanna.

The great focal point west of the mountains in early days was Pittsburgh. Here two rivers converged, and hither land routes tended, not merely from Philadelphia, but, as we have seen, from New York and Albany, and, as we shall see, from the Potomac also. The final route in Pennsylvania was to follow the valleys rather than the uplands, and the early improvement of navigation in Pennsylvania took much the same course as in New York. The Schuylkill, Susquehanna, Juniata, and the Conemaugh pointed out Nature's highway to the West. The State had its society for the betterment of roads and navigation as far back as 1791, several years before the Inland Lock and Navigation Company built the short

canals of the more northern State. Indeed, the completion of the Potomac line was felt at that time more keenly than that of the Mohawk, and yet the Pennsylvanians had no sort of doubt of being able to control not only much of the Ohio traffic, but the Great Lake trade as well. They did not appreciate the fact that they must surmount altitudes more than four times as great as those of the pass of the Mohawk.

By 1834 canal traffic was open from Philadelphia westward to Holidaysburg, and from Pittsburg eastward to Johnstown. Between Holidaysburg and the town on the rushing Conemaugh lay thirty-six miles of country constructed in one of Nature's own ways and with slight reference to the schemes of migrating, trafficking human creatures. To read early accounts one would suppose the Allegheny front to be a belt of mountains piled like the Alps. But while the hills are rounded, and mantled even yet in great measure by forests, their altitude is respectable, and their more than two thousand feet put navigation out of the question. The problem was solved by building the Portage Railway with alternating levels and inclines. Boats were floated upon cars at the water terminus and drawn by locomotives and stationary engines over the summit and deposited in the waiting waters on the east or west. After a time the summit was abandoned, and power was saved by carrying the road through the earliest tunnel in America. The prosperity of the stage and the Conestoga wagon was shattered, as the reign of the dirt road had passed in New York in 1825. The day of the canal and of the portage was short, for the Pennsylvania Railway Company was chartered in 1846; and in 1854, or twenty years from the beginning of continuous boat traffic, there was unbroken railway communication from the Delaware to the Ohio.

Narrowly separated from the Pennsylvania routes are the passes followed by the Potomac and its branches. Up this river were natural lines of communication for Maryland and Virginia with the Ohio Valley and the lakes and prairies lying beyond. Thence early Virginia was supposed to extend, and hence both nature and history may well have convinced the Virginian, and such an ardent Virginian as Washington, that the ancient colony, later become a State, was the natural heir to the commerce of the new domain beyond the mountains.

Nor was Maryland to be left out, for she held the north bank of the Potomac and began to enact road laws in 1666. She built "rolling roads," along which two men could tumble great casks of tobacco into Annapolis, and her endless tidal inlets made many

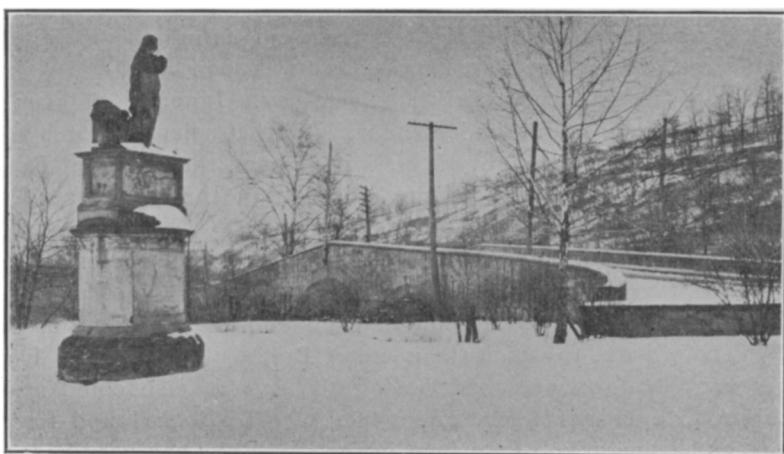
ferries necessary. Numerous "Joppa" roads gave a hint that that mart of tobacco yielded its precedence to Baltimore because of the better geographical conditions of the latter. The Monocacy Road early joined the western parts of the State to Philadelphia, and thus the progress toward the mountain-belt and across it was a natural evolution. The Ohio Company was founded to trade with the West, and this idea fully materialized in the final building of the National Road.

Thus we are brought down to familiar names, for Christopher Gist was commissioned by the Ohio Company in 1749 to explore the routes leading westward. Going up the Potomac, he would come, as many a prehistoric hunter and fighter must have come, to that splendid water-gap which has been cut across the mountain by Wills Creek, where Fort Cumberland was soon built, and where the busy City of Cumberland stands to-day. Ignorant of history must he be who stands under the walls of that splendid notch and does not thrill at the sight of the swift stream, the National Road and four lines of railway passing through in their close parallel courses.

Two years later Thomas Cresap, aided by the Indian Nemacolin, undertook to lay out a way to Pittsburg on the Ohio, and soon followed Washington's mission to Ohio and the widening of the Nemacolin path, to which the name of Braddock's Road has been given. What sort of a road Washington and his men could make through leagues of forest and mountain Braddock found to his cost as he sought to ride over it in the chariot he had been bent on buying at Alexandria. Satisfied at length, as he crept with a snail-pace of three or four miles a day, that Washington knew the land better than he, he discarded his carriage, sent back many wagons, and packed his supplies for the further journey toward the Ohio and his foes. But a half century was to pass before the Potomac and the Monongahela would see an adequate highway. So late as 1807 Gallatin's report on turnpikes contained a representation by Jonathan Ellicott of the Baltimore and Fredericktown turnpike, that a gap of $7\frac{1}{2}$ miles separated the road of his company from the proposed Government pike leading west from Cumberland.

This link was at length built, and the National Road was brought to completion between the dates 1811 and 1818. This road the writer has seen for sections of a few miles each at certain important points, but he believes that the student of American geography and history would be well rewarded by devoting a month of time to traverse it. Let him begin by the tidal waters at Baltimore, pass

to Frederick, Hagerstown, and Cumberland, and there take up his journey over what is properly the National Road, through its seven hundred miles from the heart of the Appalachians to the heart of the prairies. He may not learn many specific facts that he cannot gain from books, but he will see with his own eyes a kind of cross-section of the eastern United States; he will know its great units of topography—plain, mountain, and plateau—until he comes to lowland again; he will see types of industry, the decay of the old and the growth of the new, while every arched bridge of stone, every toll-gate and battered road-house, will speak to him of a period of enterprise and power not less wonderful for the opening



BRIDGE ON THE NATIONAL ROAD OVER WHEELING CREEK, FIVE MILES EAST OF WHEELING, W. VA.
THE MONUMENT IS ON THE GROUNDS OF THE CRUGER MANSION.

years of the nineteenth century than the things we see at the beginning of the twentieth century.

The National Road is the most complete and tangible result of that widespread interest in communication which prevailed among common men and among American statesmen during the first decades of that century. No similar enterprise was so large, so fully completed, or so largely useful.

The specifications for its building were included in the Act of Congress which ordained it. The road was to be four rods wide, raised in the middle with proper material, such as stone or gravel, and the grade must be low. The traffic upon it was enormous, and the procession of gay passengers, of the United States mails, and of imposing freight wagons probably created an impression on eye-witnesses not inferior to that now made by a four-track trunk rail-

way in this time, when we are somewhat hardened to the sight of great things. Mr. Hulbert's volume (he entitles it the Cumberland Road) will be enjoyed by those who would read the story in detail. It will be observed that this typical Potomac route, as we may incline to call it, does not touch the soil of Virginia, but passes from Maryland up into Pennsylvania to Uniontown, crosses the Monongahela River at Brownsville, comes down to the Ohio River at Wheeling, and runs thence to Columbus and the Mississippi country.

Some things point to a better appreciation of earth roads then than to-day. In 1818 one of the Maryland Governors, in his Message, condemned the locking of wheels, recommending a chain and shoe, and he proceeded to say that "The great scourge to a turnpike road is the narrow wheel, which should be made the subject of legislation." The importance of wheels was recognized in the administration of the National Road, for wagons having tires above a certain width were not subject to tolls.

There was democracy of travel in those days, and the average man, if he could pay the fare, rode with millionaires (if such there were) and with statesmen, of whom there certainly were some, going and coming between Washington and the West.

A somewhat famous iron bridge crosses Dunlap Creek, close to its entrance upon the Monongahela between Bridgeport and Brownsville. It is on the line of the National Road, and it is tradition in Brownsville that Henry Clay was, on one of his journeys, overturned in the bed of the stream, and that he gathered himself up with the remark that Clay and mud should not be mixed in that place again. The rest of the story is that soon after his return to Washington there came unsolicited the order for this iron span, carrying the road high above the stream. The great Kentuckian was certainly in no danger upon the great covered wooden bridge over the Monongahela, which seems as staunch as ever, and whose massive timbered arches seem good for another century.

The Chesapeake and Ohio Canal and the Baltimore and Ohio Railway were the natural successors to the National Road. The ardent passion for waterways and railways began to prevail at about the same time as in New York; for the Canal was chartered in 1823, and the railway but three or four years later, coinciding well with the corresponding strides in communication in New York and Pennsylvania. The ditch was intended to join not only the Ohio, but also the Lakes, to the Chesapeake. Perhaps it was prophetic that President Adams, in sinking the spade for the first turn-

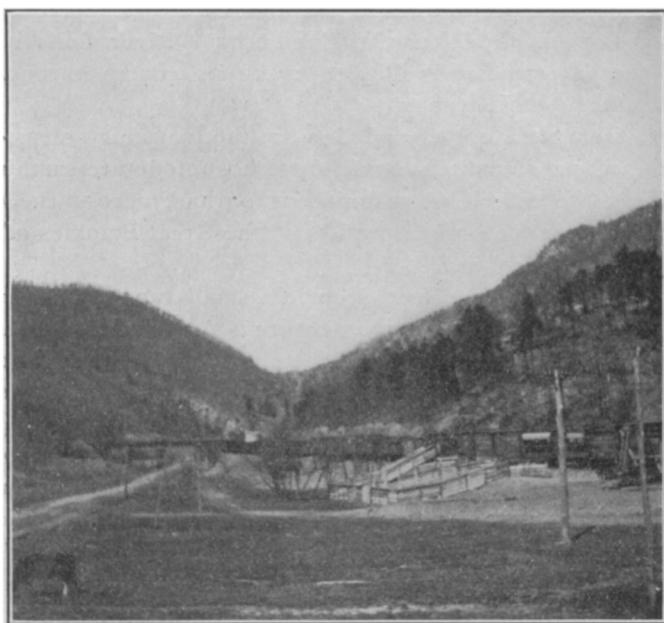
ing of earth, hit a root and was obliged to doff his coat and bend lustily to his work; for the making of the canal was long and toilsome; it was never dug farther west than Cumberland, and this goal was only reached in the autumn of 1850. More than a quarter of a century had been consumed while the Erie Canal, far greater in length, had been finished in eight years. The Chesapeake Canal has been a burden to the State, and now, after its four-score years of halting construction and scarcely profitable use, has passed, for a comparatively insignificant consideration, into the hands of the Wabash Railway Company.

The railway, however, as with the rail routes of New York and Pennsylvania, has become the great Potomac avenue of transportation, sending its long branches to Pittsburg, to Wheeling, and farther down the Ohio, all being outgrowths of the single trunk which leads up the Potomac, following its magnificent valley as far as Cumberland before divergence. And the traveller follows the majestic meanders, incised deep into the ancient plateau, and looks across upon the ditch, the subject of so much thought and outlay of money, and falling so far short of the brilliant hopes founded upon it. The railroad of the first years was important more as a prophecy, for horses, and even wind and sails, were the precarious motive powers that led up at length to the powerful locomotives that now climb up the highlands on one side and go comfortably down on the other.

We have reviewed the New York, Pennsylvania, and Potomac lines of communication. Other routes have been found, but these are the three great avenues from the Atlantic directly crossing the eastern highlands from the seaboard to the lakes and the Mississippi. It remains to cast our eyes upon another route equally historic, which runs along the mountain axis, and crosses the belt of uplands far to the south. We have seen how the Hudson from the north gate of the Highlands to Albany is a section of the New York route to the West. The physiographer follows this same valley past Allentown, Reading, Harrisburg, and Chambersburg in Pennsylvania, and recognizes it as the Hagerstown Valley in Maryland, the Shenandoah or Valley of Virginia south of the Potomac, and the valley of east Tennessee, in the region about Knoxville and Chattanooga. It is not a valley of the ordinary type; it is not due in the usual degree and manner to the action of streams, but results from the denudation of upturned strata, and is bordered by the Blue Ridge and its equivalents on the southeast, and by the faces or escarpments of the great plateau on its northwest side. The

lines of migration passed from the Delaware to the Susquehanna, from the Susquehanna to the Potomac, thence up the Shenandoah along the head branches of the James and down the long water-courses of the Powell, Clinch, and Holston to the Tennessee.

Immigrants found a well-trodden route into the Great Valley by way of Lancaster, from whence they would go to York, Hagerstown, and, crossing the Potomac, would pass, by way of Martinsburg, Winchester, and Staunton across the New River to the head-waters of the Tennessee. It was easier to push southwest along the valley and occupy its fertile lands than to break across the



CUMBERLAND GAP FROM THE EAST.

mountains into the wilderness of the plateau in Pennsylvania and Virginia.

The migrations of Daniel Boone may be taken as typical of the movements of his time; for he was born by the Schuylkill, and after getting his wilderness training in the woods of Pennsylvania, went with his family by way of Harper's Ferry and the Valley of Virginia to the far Southwest. There, however, he first turned to the basin of the Yadkin, until, after some years, in 1769, he recrossed the Blue Ridge, crossing also the streams and minor

ridges of the Great Valley, until he came to the Cumberland Gap, at the point where Kentucky and Virginia corner upon Tennessee. Few other points in the United States hold so much interest to physiographers and the historian as this. South and east from the Cumberland Range are the rolling and rich acres of the Valley of East Tennessee. To the northeast the range forms the rugged boundary between Virginia and Kentucky. To the southwest it runs on into Tennessee. Across it, to a depth of one thousand feet, is cut a V-shaped notch, the Cumberland Gap. Beyond is a broken valley a few miles wide, and then the Pine Mountain runs parallel to the Cumberland Mountain. Opposite the Cumberland Gap in Cumberland Mountain is the Pineville Gap, in Pine Mountain, and through the latter the Cumberland River finds its way out of the intermediate valley to make its course through the rugged plateau of Kentucky.

North from the Cumberland Gap are the frowning steeps of the Pinnacle, whose summit is covered with Confederate earthworks, and affords the traveller a magnificent outlook across the Great Valley, and over the broken profiles of the Great Smokies of Tennessee and the Carolinas.

A notch one thousand feet deep in a small range of mountains is not in figures an impressive feature. A villainous road still rises on the east several hundred feet, to reach the summit of the pass. But it was the one convenient point of overflow to the Blue Grass Region and the Ohio River, and it was directly opposite Pineville Gap. The Indians had trodden it for long; Walker and Gist had climbed through it many years before Boone's journeys to Kentucky, and the tides of travel that found the Gap before the end of the eighteenth century were ceaseless. Hence it marks the most famous point on one of the most famous American roads, a route variously known as Boone's Trail, the Caintuck Hog Road and the Wilderness Road.

The story of this road is told by Hulbert in Volume 6 of *Historic Highways*, and the reader will find a vivid picture in the closing chapters of James Lane Allen's *Kentucky Blue Grass Region*. It is in the heart of the country of the mountain white, and has yet its share of feuds and shootings, which comport strangely with such modern towns as Middlesboro, just inside the Cumberland gate and Pineville, in the Pineville notch. A college stands in the Great Valley, within a half hour's drive of the Gap, the mountains and the plateau are rich in coal, and a tunnel with two lines of railway carries the traveller several hundred feet

beneath Boone's ancient trail. The old and new are strangely blended in this land, and the visitor, according to his bent, can with equal facility look only at the new or altogether at the old, measuring the coal seams and building roads, or seeing in meditative vision the silent procession of men, women, and children who conquered the Ohio River and made possible the Louisiana Purchase and an American empire on the Pacific.

NOTES FROM THE DIARY OF THE LATE FRANCIS H. NICHOLS IN CHINA.

These Notes describe the passage through the Yangtze Gorges and the land-travel to the City of Tachienlu, where Mr. Nichols lived for months, preparing himself for the Tibetan journey which he was never to make. Turned back in Eastern Tibet, he went by way of India to Gyangtse, where he died.

Chinese names and words are spelled as in the Dairy.

July 29, 1903. At eight o'clock this morning I left Ichang for Chunking, about 480 miles farther up the Yang-tze. Three miles beyond Ichang the gorges of the Yang-tze River begin. From Ichang to its sources, 1,000 miles to the westward, the river is confined between mountains and high cliffs. The compression of this vast body of water causes an exceptionally swift current, with swirling whirlpools. The numerous rocks, too, in the river-bed cause a succession of rapids, which make navigation at all times difficult, slow, and hazardous. But these conditions are now accentuated by the recent rise of the water in the river. During the last three weeks the water has risen forty feet at Ichang, and I am informed that the rise at Chunking is 100 feet. The speed of the current has increased proportionately with the rise of water. For hundreds of miles the river runs with the force of a mill-race. As a result the usual junk traffic is almost suspended, and this part of the Yang-tze is practically devoid of boats of any kind.

For me, however, a river voyage is necessary. In order to have as much time as possible on the Tibetan border I must hurry through this stage of my journey.

My boat is a species of junk called a *Wupan*. The literal translation of *wupan* is *five boards*. After the fashion of the smaller craft of China, a *wupan* receives its name from the number of angles in its hull, just as the one-oared *sanpan* is so called because its *lines* are three in number—two in its sides and one across its broad stern. My *wupan* is twenty-five feet long and has a beam of about eight feet. Like all Chinese boats, it is built in compartments divided by bulkheads. Although intended for carrying freight, the *wupan* is adapted for carrying passengers by a roof of matting stretched over posts lashed to the sides.

Over the *wupan*'s stern extends a long, ungainly tiller; another similar tiller is at the square bow; along the thwarts are two long oars. Just forward of the matting-protected space which I dignify with the name of cabin a mast is stepped. From it hangs a square canvas sail, rigged with bamboo reefs. But by far the most important